

Maryland Energy

ADMINISTRATION

Powering Maryland's Future

Maryland Save Energy Now™

**Presents: Industrial Project Successes
Using EmPOWER Maryland Utility Incentives**

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Maryland Energy Administration

January 20, 2011

Maryland Save Energy Now™

www.energy.maryland.gov/SEN

- A program to support the EmPOWER Maryland initiative to reduce energy consumption 15% By 2015

Maryland Save Energy Now™

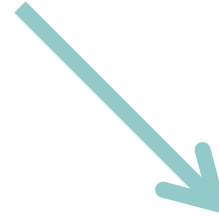
www.energy.maryland.gov/SEN

- An MEA program for the Industrial sector
- Managed by Maryland Energy Administration with partners: SENTECH and the University of Maryland Manufacturing Assistance Program
- Collaboration with Utility partners



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Education

**Energy
Audits**

**Financial
Assistance**

Maryland Save Energy Now™

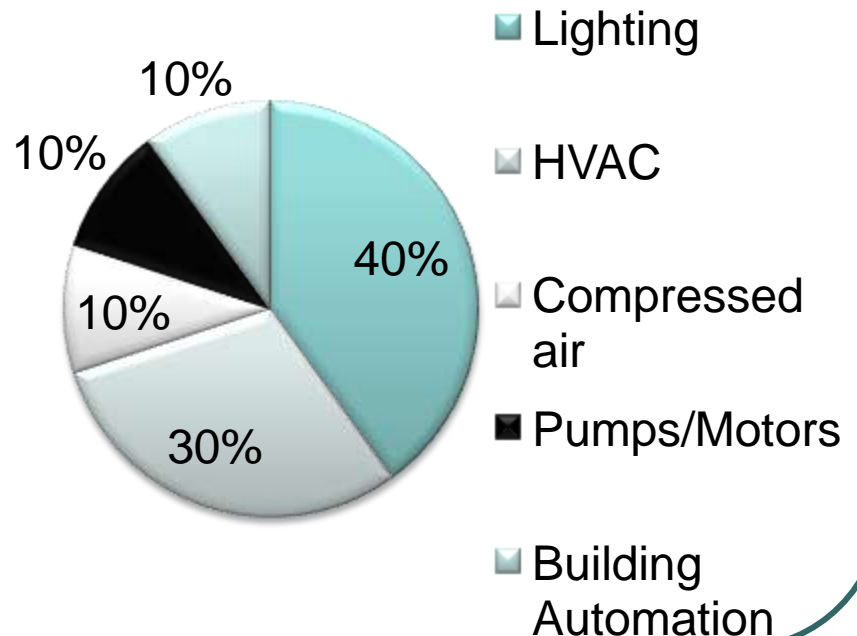
Progress To-date

Education: Webinars and workshops

- **Webinars:** 4 completed; 2 more planned
- **Workshops:** Combined Heat and Power - planned

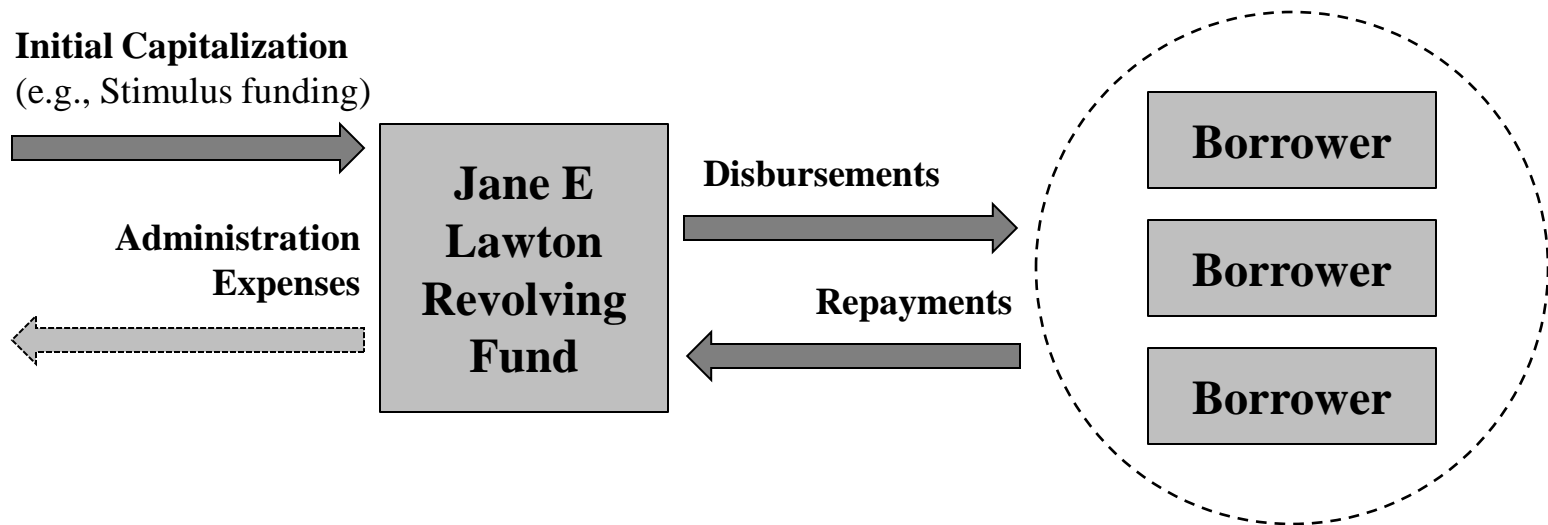
Energy audits: Low-cost energy assessments for Industrial facilities and recommendations on efficiency upgrades

Projected Energy Spend Reduction



Financial Assistance

Jane E. Lawton Conservation Loan Fund



- **Low interest (2.5%) loans for energy efficiency and conservation improvements to structures**
 - Local governments, non-profit organizations and businesses may apply
 - \$ 1.1 Million disbursed for energy efficiency projects to-date



For more information, please contact:

Maryland Energy Administration

410-260-7655 or 800-72-ENERGY

www.energy.maryland.gov

Maryland Energy

ADMINISTRATION

Powering Maryland's Future



SMECO Business Solutions

SMECO
People. Power. Progress.



Business Solutions

SMECO's Business Solutions program is designed to help commercial and industrial customers maximize energy efficiency and manage energy costs. With cost-saving financial incentives and expert technical assistance, SMECO's Business Solutions program identifies the right energy efficiency measures for your business.



Prescriptive Applications

The prescriptive approach provides a defined selection of proven energy efficiency technologies your business can choose from without the need for a detailed engineering analysis. Typical upgrades that are eligible for incentives include the following systems:

- Lighting
- Unitary HVAC
- Variable frequency drives
- Commercial refrigeration



Custom Applications

For more complex systems and energy efficiency measures not included in the prescriptive offerings, SMECO offers a custom approach. Custom measures must be able to produce isolated and verifiable energy savings. Typical custom measures include the following:

- Chillers
- Energy management systems
- Compressed air systems
- Industrial systems and process equipment

BGE Smart Energy Savers ProgramSM

for Business

**Industrial Programs & Projects
January 20, 2011**

These programs support the EmPOWER Maryland Energy Efficiency Act.

Three Core Programs for Business Customers

1. Energy Solutions for Business

- Incentives cover up to 50% for retrofit projects or up to 75% of incremental costs for new equipment

2. Retrocommissioning (RCx)

- Incentives cover up to 75% of the cost of the RCx assessment and study

3. Small Business Lighting Solutions

- Incentives cover up to 80% of the total cost of the project

Energy Solutions for Business: Program Overview

- Provides financial incentives and limited technical services
- Primary focus on building system improvements such as mechanical and lighting in new and existing buildings as well as end of life replacement
- Key elements:
 - Prescriptive
 - Custom
 - Technical services



Energy Solutions for Business: Prescriptive Element

■ Prescriptive Lighting

- Incentives paid on a “per fixture” basis
- Incentives range from \$25-\$90 per fixture, \$25-\$100 per control



■ New Construction Performance Lighting

- Incentives paid on a “watts/square foot” basis (LPD)
- Incentive range from \$0.40 to \$0.80 per watt reduced



Energy Solutions for Business: Prescriptive Element

■ HVAC & Chillers

- Packaged, Split systems, PTACs, PTHPS
- Air and water cooled chillers up to 1,000 tons – single chiller installations
- New and end of life replacements

■ Variable Frequency Drives

- 5-100 hp HVAC applications
- Existing HVAC fan and pumping applications



Energy Solutions for Business: Custom Element

- Site-specific, cost-effective measures for retrofit and new construction opportunities
- Measures not included in prescriptive element may qualify
- Typical measures include energy management systems, compressed air, LED and exterior lighting, process, and whole building systems
- Incentives up to 50% of the total cost for retrofit projects and up to 75% of the incremental cost for lost opportunity projects
- Detailed engineering and cost analysis required
- Customers engage their own staff or own contractors



Energy Solutions for Business: Technical Services

- Engineering services to help customers identify and analyze potential projects
- Incentives for feasibility studies, design assistance and commissioning.
 - The program co-funds up to 50% of approved engineering studies, with a per-project cap of \$15,000
- Customers may select from a group of pre-qualified engineering firms

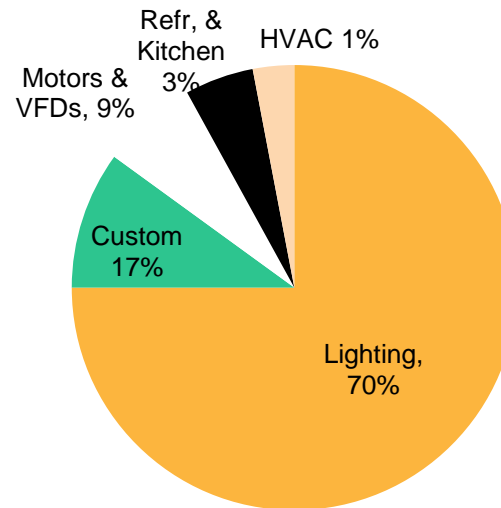


Retrocommissioning (RCx): Program Overview

- Identify and implement low or no-cost improvements to existing systems within existing buildings
- Primary focus on equipment performance, rather than replacement (HVAC controls, lighting controls, ventilation, and automated building controls, etc.)
- Customers may select from a group of pre-qualified commissioning providers
- Incentives available to cover up to 75% of the cost of the RCx assessment and study, with a per project cap of \$15,000
- Typically results in energy savings as well as improved indoor air quality, comfort, and total resource efficiency

BGE Business Program Progress to Date (1/10/2010)

- Over 7,000 applications received with over 3,000 projects completed



- These completed projects represent ...
 - Customer incentives of over \$20 million
 - Annual energy savings of over 140 million kWhs

The BGE Solution for a Filtration Manufacturer

- Company: Manufacturer of filtration and separation equipment and products
- Project:
 - Utilized BGE's Custom program to replace their aging air compressor with a new high efficiency one
- Incentives: \$9,463
- Annual Savings:
 - 20,844 kWh per year
 - \$2,700 in annualized savings

The BGE Solution for Northrop Grumann

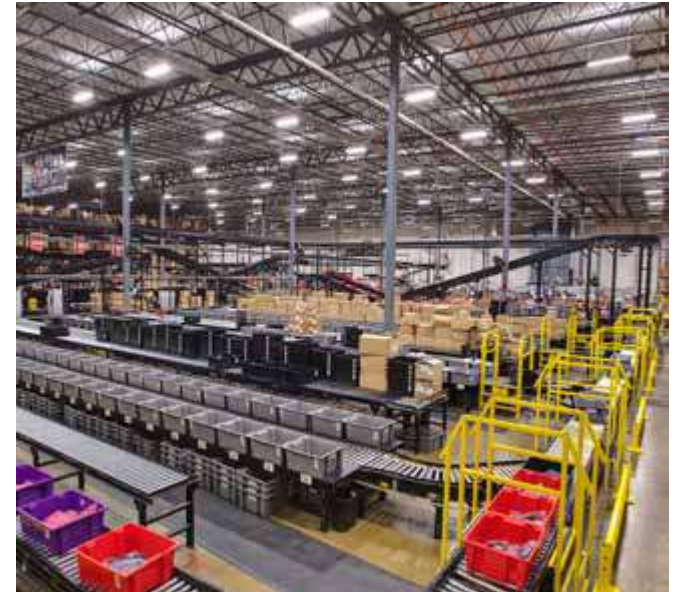
- Company: Northrop Grumann Corporation located in Linthicum, MD
 - Designer, systems integrator and manufacturer of military aircraft, defense electronics, precision weapons, commercial and military aerostructures
- Project:
 - Utilized BGE's Prescriptive Lighting program to retrofit their linear fluorescent lamps, install occupancy controls and LED Exit signs
 - Considering additional projects including a comprehensive chiller upgrade
- Incentives: \$11,813
- Annual Savings:
 - 100,678 kWh per year
 - \$13,000 in annualized savings

The BGE Solution for Dreyer's Grand Ice Cream

- Company: Dreyer's Grand Ice Cream located in Laurel MD
 - The Laurel plant is the largest of the company's six ice-cream plants in the US .
 - The plant makes and distributes more than 120 different Dreyer's products such as Edy's, Haagen-Dazs, Nestle and Skinny Cow ice-cream products and frozen snacks
- Project:
 - Over the course of several months, the plant upgraded their lighting in several areas of the plant using BGE's Prescriptive Lighting program
 - Currently installing lighting upgrades in the remainder of the plant
- Incentives: \$79,945
- Annual Savings:
 - 2,027,730 kWh per year - \$260,000 in annualized savings

The BGE Solution for Under Armour

- Company: Under Armour located in Baltimore MD
 - Manufactures and sells performance athletic apparel designed to enhance athletes' comfort and performance
- Project:
 - Installed 373 T5s and 432 occupancy sensors in its two 300,000 square-foot distribution warehouses using BGE's Prescriptive Lighting program
- Incentives: \$88,490
- Annual Savings:
 - 2,461,500 kWh per year
 - \$300,000 in annualized savings



Questions?



For additional information
Visit us on line at www.BGESmartEnergy.com

Call us at 410-290-1202
Email us at Business@BGESmartEnergy.com



Pepco and Delmarva Power C&I Energy Savings Programs Maryland Save Energy Now Webinar January 20, 2011



C&I Energy Savings Program



Corporate Overview

Pepco Holdings, Inc. (PHI), headquartered in the District of Columbia.

PHI is one of the larger energy delivery companies in the Mid-Atlantic region serving more than 1.9 million customers in DC, Maryland, Delaware and New Jersey.

PHI serves approximately 47,000 C&I customers in Pepco Maryland and approximately 25,000 C&I customers in Delmarva Power Maryland.



Program Eligibility

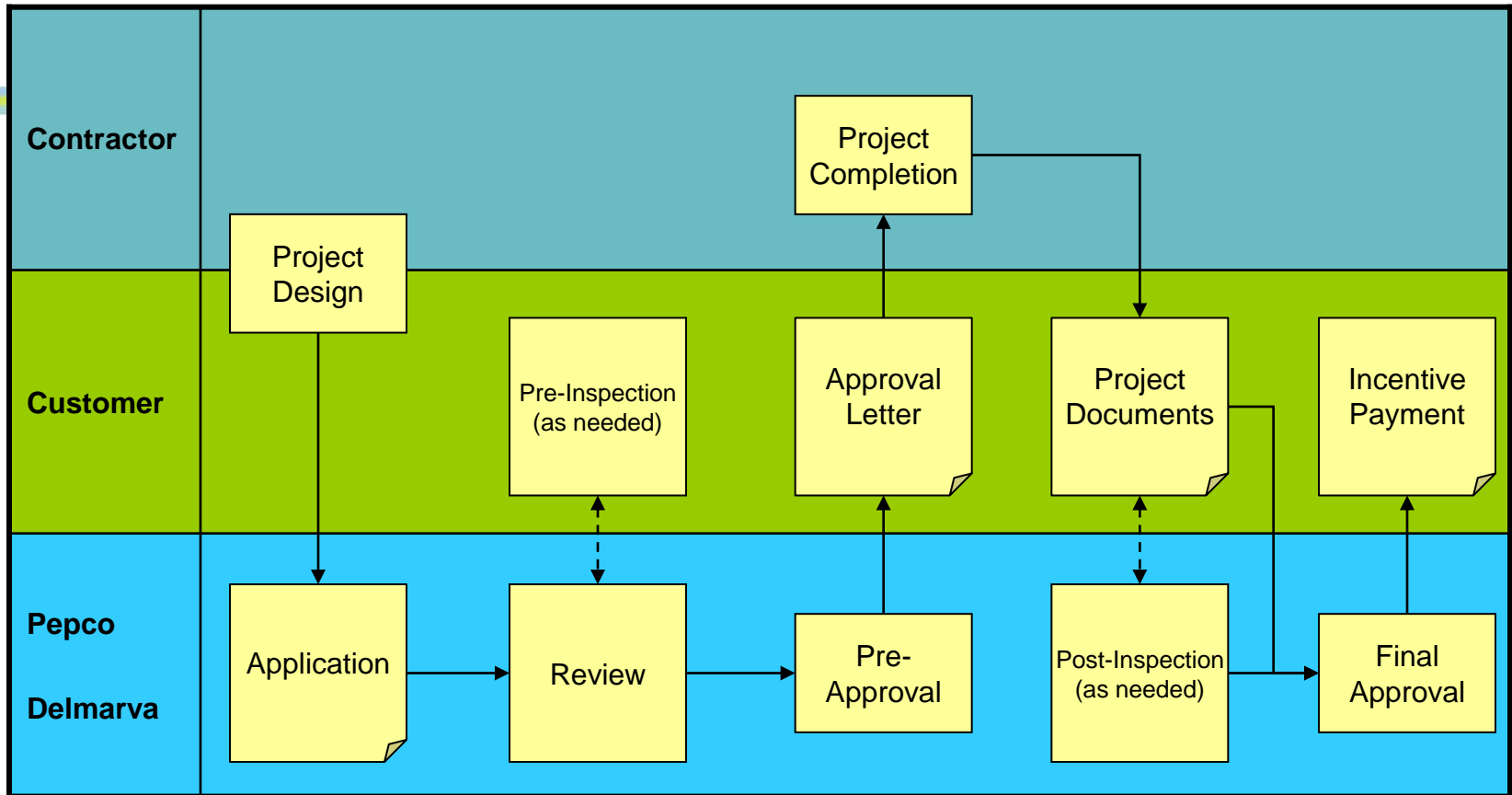


Pepco and Delmarva Power Maryland commercial and industrial customers are eligible for CASH incentives for projects that reduce electric consumption.

- Commercial account holders are eligible.
- Including government, institutional and non-profits.



The Application Process



- All projects must be approved in advance.
- Receive payment within 4 weeks of project completion and submittal of complete documentation.
- Complete details, applications, workbooks, manuals, guides and a list of qualifying measures are available on the Program website.

Program Incentives - Summary

- **Prescriptive Incentives**
 - Menu of Eligible Measures to choose from
 - VFDs
 - Vending Machine Controls
 - Lighting
 - HVAC
- **Custom Incentives**
 - Performance based incentives for projects that result in kWh savings, including chillers and ground source heat pumps.
 - Energy Savings Studies to help generate and evaluate projects.
- **Commissioning Incentives**
 - Available for existing buildings and new construction
- **Operations & Maintenance Training Incentive**
 - Energy efficient focused courses are eligible for program incentives.



The Top 3 Measures

Prescriptive- Lighting



Prescriptive- VFDs

Custom- Chillers



Variable Frequency Drives and HVAC Equipment Incentives

VFD Incentives

- 2 hp and larger motors controlled by VFDs are eligible for VFD incentives
- VFDs for HVAC systems and process (non-HVAC) functions are eligible

HVAC Incentives

- Packaged Equipment up to 63 tons – \$35/ton or \$70/ton, with incentive based on equipment efficiency. Includes unitary, split systems and air-to-air heat pumps. Added incentive for dual enthalpy economizer controls.
- Water source heat pump units and evaporative-cooled air conditioning units – incentive of \$50 per ton.
- Packaged terminal heat pump units and air conditioning units –
 - < 1 ton = \$40/unit incentive.
 - => 1 ton = \$50/unit incentive.

Prescriptive Lighting Fixture Incentives

- High-output CFL incentive for new fixtures and retrofit replacements.
- High-output CFL categories >42W to 60W and > 60W. Hard-wired lamps and fixtures can qualify.
- LED Traffic Signal Retrofit incentive
 - Red and Green Traffic Lights.
 - Full-Time Flashing and Pedestrian Signals included.
- \$15 to \$70 fixture incentives for T8, T5, CFL and metal halide pulse start new fixtures.
- Relamp / reballast and retrofit replacements.
- Existing buildings only.
- Interior and exterior building attached fixtures.
- New Lighting Workbook available on the program web site.

Alternative Fixture Incentives

- Specially developed for non-prescriptive lighting technologies; i.e. LED and induction.
- Existing buildings only; replacing old with new or retrofitted fixtures.
- Alternative Workbook with installed cost, manufacturer warranty and independent testing data required.
- Both prescriptive and alternative fixture workbooks can be utilized in a single project.
- Integral and remote ballasted screw-in LED lamps can qualify.
- Incentives created for qualifying fixtures to help buy-down the project payback.

Design-Based Lighting Incentives

- Specifically for new construction and major renovation projects.
- ASHRAE 90.1 2004 Space-By-Space Lighting Power Density Baseline.
- Interior building areas only.
- Room-by-room, Design-Base Workbook required.
- Incentive for qualifying rooms based on energy efficiency.
- Graduating incentive protocol based on kW and kWh savings.
- New fixtures only; all technologies included.
- Must maintain Illuminating Engineering Society recommended lighting levels in qualifying spaces.



Custom Incentive Program

Custom Program

- Custom incentive application process streamlined to increase participation
- Incentive is \$.08 per annual kWh saved.
- Any project which saves at least 25,000 kWh/year is eligible for review
- Simplified application process – Custom Short Form for chillers and ground source heat pumps.

Energy Savings Study Incentives

- Up to \$15,000 available for Energy Savings Studies.
- Incentive is based on energy-saving measures *implemented* by customer as a direct result of the study.



Retro-Commissioning Incentive

- Retro-Commissioning (RCx) is a commissioning process to fix a wide range of energy efficiency issues within an existing building.
- Mostly low and no cost project recommendations.
- Includes other benefits such as documentation of operational processes and training.
- Up to \$30K available for completing the RCx process.
- Customers are required to use RCx Trade Allies that are listed on the program website.



Enhanced Commissioning Incentive



- New construction and major renovation only.
- Must be pre-approved in the design phase of construction.
- Criteria is building less than 2 years old and over 75,000 sq/ft.
- Two Incentive Phases
 - Phase I- design & system manual review
 - 50% of cost up to \$10,000.00
 - Phase II- commissioning verification
 - 50% of cost up to \$10,000.00
- *For more details on ECx , please see the Technical Manual on the program website*

Operations & Maintenance Training Incentive

- Incentives to pay enrollment fees, 80% up to \$1,000.
- Eligibility is for building operators, managers, and other personnel who influence energy efficiency decisions and physically work in a facility located in Pepco or Delmarva Power's Maryland service territories.
- Training is to improve the operation and maintenance of buildings which result in energy savings.
- All applications must be pre-approved prior to taking the course.
- Program has a list of pre-approved courses for customers to choose from.



Pre-Approved Courses

- Examples of pre-approved courses are listed on our website from many great organizations including
 - **AEE** (Association of Energy Engineers)
 - **LEED** (Leadership in Energy & Environmental Design)
 - **IFMA** (International Facility Management Association)
 - **NAPE** (National Association of Power Engineers)
 - **NALMCO** (National Association of Lighting Management Companies)
 - **BOC** (Building Operator's Certification)
 - **BOMI** (Building Owners & Managers International)

Project Example – Lower Shore Enterprises, Salisbury, MD

Project Description: Complete lighting retrofit/fixture replacement project for a 25,000 sq. ft. industrial facility. Existing lighting was aged, inefficient, inadequate and poor quality.

Energy-Saving Measures Installed - Eligible for Program Incentives:

- T12 fixtures with magnetic ballasts were retrofitted with HPT8 lamps and electronic ballasts
- All incandescent exit signs were replaced with new LED Exit Signs
- All metal halide HID fixtures were replaced with new six-lamp High Bay T8 fixtures

This project is a good example of a comprehensive lighting upgrade project that yielded significant energy savings.

This manufacturing and packaging facility benefited from improved light quality, light quantity and energy efficiency.



Lower Shore Enterprises (Continued)

Installed Measures	Energy Savings (Annual kWh)	Cost Savings* (Annual)
Lighting - (fixtures retrofitted or replaced)	89,500	\$12,530



*Based on average electricity rate of \$.14 per kWh.



C&I Energy Savings Program

Project Example – Food Processing Facility

Project Description: Commercial cannery with significant kWh usage from fan motors and rotating vessel steam cookers.

Energy-Saving Measures Installed - Eligible for Program Incentives:

- VFDs for rotating steam cookers
- VFDs for can dryers (fans for air-drying of cans during canning)
- VFDs for ceiling-mounted exhaust fans
- Premium-Efficiency replacement motors for can conveyors/dryers
- HPT8 industrial replacement light fixtures

This project is an excellent example of multiple upgrade measures in unconventional applications which are non-HVAC related.

Delmarva has a significant light manufacturing base, and program modifications to incentives have allowed the program to address some of the unique industrial customer needs on Delmarva.



Food Processing Facility (Continued)

Installed Measures	Energy Savings (Annual kWh)	Cost Savings* (Annual)
Lighting Replaced existing fixtures	47,465	\$6,645
VFDs Added to cookers, can dryers, exhaust fans	378,516	\$52,992
Motors New premium-efficiency motors	1,361	\$191
Total Savings	427,342	\$59,828

*Based on average electricity rate of \$.14 per kWh.



Other VFD Project Examples

- Water Treatment Plant Pumps
- Potable Water Booster Pumps
- Industrial Blowers/Dryers
- Commercial Bakery Fans
- Industrial Process Equipment Systems
- Specialized Conveying Systems
- Constant Volume Industrial Washdown Systems



Contact Pepco For More Information

Visit us online at www.pepco.com/business

Call the C&I Energy Savings Program at **1-866-353-5798**

Email us at PepcoEnergyEfficiency@LMBPS.com



C&I Energy Savings Program



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Question & Answer Session

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